

Department of Dams and Water Resources / First Level

(Fall semester) / First Level								
Notes	Code	Pre-request	Units	Practical hours	Theoretical hours	Subject	Type	
	UOMC100	-	2	-	2	Arabic Language	Compulsory	University requirements
	UOMC102	-	3	2	2	Computer	Compulsory	
	UOMC103	-	2	-	2	Rights and Freedoms	Compulsory	
	ENGC121	-	3	-	3	Calculus I	Compulsory	College requirements
	ENGC123	-	1	3	-	Engineering Drawing	Compulsory	
Compulsory	ENGE 131	-	2	-	2	Electrical Engineering	Elective	
	ENGE 134	-	2	-	2	Chemistry	Elective	
	DWR 140	-	2	-	2	Introduction to Water Resources Engineering	Compulsory	Department requirements
	DWR 141	-	2	-	2	Engineering Geology	Compulsory	
	DWR 142	-	2	-	2	Engineering Mechanics (Static)	Compulsory	
			21	5	19	Total hours		

(Spring semester) / First Level

Notes	Code	Pre-request	Units	Practical hours	Theoretical hours	Subject	Type	
	UOMC101	-	3	-	3	English Language	Compulsory	University requirements
Choose one	-	-	۲	-	۲	Manufacturing Processes	Elective	
	-	-	۲	-	۲	Environmental Pollution	Elective	
	-	-	۲	-	۲	Information Technology	Elective	
	-	-	۲	-	۲	Electrical Installations	Elective	
	ENGC122	Calculus I	3	-	3	Calculus II	Compulsory	College requirements
	ENGC124	Engineering Drawing	1	۳	-	Auto-CAD	Compulsory	
Compulsory	ENGE 133		2	-	2	Physics	Elective	
	DWR 143		2	2	1	Water Quality and Pollution	Compulsory	Department requirements
	DWR 144	Engineering Mechanics (Static)	2	-	2	Engineering Mechanics (Dynamic)	Compulsory	
Compulsory	DWR 190		۱	2	-	Descriptive Geometry	Elective	
			۱۸	7	13	Total hours		

Department of Dams and Water Resources / Second Level

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Notes	Code	Pre-request	Units	Practical hours	Theoretical hours	Subject	Type	
	ENGC 227		2	---	2	Statistics	Compulsory	College requirements
	DWR 240	Calculus I	۲	3	1	Calculus III	Compulsory	Department requirements
	DWR 241		۲	---	2	Fluid Mechanics I	Compulsory	
	DWR 242		۲	3	1	Engineering Surveying I	Compulsory	
	DWR 243		۲	2	1	Building Construction	Compulsory	
	DWR 244	Engineering Mechanics (Static)	۲	---	2	Strength of Materials I	Compulsory	
	DWR 245		۲	2	1	Soil Physics	Compulsory	
	DWR 246		۲	2	1	Computer Programming (MATLAB)	Compulsory	
The student has to choose one	DWR 290		2	---	2	Water Resource Projects in Iraq	Elective	
	DWR 291		۲	۲	۱	Remote Sensing and GIS applications	Elective	
			۱۸	۱۴	14	Total hours		

(Spring semester) / Second Level

Notes	Code	Pre-request	Units	Practical hours	Theoretical hours	Subject	Type	
			1	---	1	English Language - Pre-Intermediate	Compulsory	University requirements
	UOMC 104		۲	---	۲	Professional Ethics	Compulsory	
	ENGE 229		۲	---	۲	Public Safety	Compulsory	College requirements
	DWR 247	Calculus III	2	3	1	Calculus IV	Compulsory	Department requirements
	DWR 248	Fluid Mechanics I	3	3	2	Fluid Mechanics II	Compulsory	
	DWR 249	Engineering Surveying I	2	3	1	Engineering Surveying II	Compulsory	
	DWR 250	Building Construction	2	3	1	Construction Material Technology	Compulsory	
	DWR 251	Soil Physics	2	2	1	Water Management and Land Reclamation	Compulsory	
	DWR 252	Engineering Geology	1	---	1	Hydrogeology	Compulsory	
	DWR 253	Strength of Materials I	2	---	2	Strength of Materials II	Compulsory	
			۱۹	۱۴	۱۴	Total hours		

Department of Dams and Water Resources / Third Level

(Fall semester) /Third Level								
Notes	Code	Pre-request	Units	Practical hours	Theoretical hours	Subject	Type	
	DWR 340	Calculus IV	٢	1	٢	Engineering Analysis	Compulsory	Department requirements
	DWR 341	Fluid Mechanics II	٢	-	٢	Hydraulics	Compulsory	
	DWR 342	-	٢	-	٢	Surface Hydrology	Compulsory	
	DWR 343	Water Management and Land Reclamation	٢	-	٢	Irrigation Principles and Practices	Compulsory	
	DWR 344	Strength of Materials II	٢	1	٢	Theory of Structures I	Compulsory	
	DWR 345	Strength of Materials II and Construction Material Technology	٢	-	٢	Concrete Design	Compulsory	
	DWR 346	Water Management and Land Reclamation	٢	٢	١	Soil Mechanics I	Compulsory	
	DWR 347	-	٢	٢	1	Computer Applications in Water Resources I	Compulsory	
يختار الطالب مقرر واحد. عدد الوحدات المطلوبة = ٢ وحدة	DWR 391	-	٢		٢	River Mechanics	Elective	
	DWR 394	-	٢	-	٢	Statistical Methods in Hydrology	Elective	
			١٨	6	١٦	Total hours		

(Spring semester) / Third Level								
Notes	Code	Pre-request	Units	Practical hours	Theoretical hours	Subject	Type	
	-	-	2	---	2	English Language - Intermediate	Compulsory	University requirements
اجباري لطلبة القسم	ENGE320	Calculus I and Calculus II	٢	---	٢	Numerical Analysis	Elective	College requirements
	DWR 348	Hydraulics	٢	---	٢	Open Channels and Hydraulic Machines	Compulsory	Department requirements
	DWR 349	Surface Hydrology	٢	---	٢	Groundwater Hydrology	Compulsory	
	DWR 350		٢	---	٢	Drainage Engineering	Compulsory	
	DWR 351	Soil Mechanics I	٢	٢	١	Soil Mechanics II	Compulsory	
	DWR 352	Irrigation Principles and Practices	٢	---	٢	Consumptive Use and Water Duty	Compulsory	
The student has to choose one	DWR 392		٢	---	٢	Theory of Structures II	Elective	
	DWR 393	Concrete Design	٢	---	٢	Reinforced Concrete Design	Elective	
The student has to choose one	DWR 395		٢	---	٢	Field Flow Measurements and Analysis	Elective	
	DWR 396		٢	---	٢	Computer Applications in Water Resources II	Elective	
			١٨	٢	١٧	Total hours		

Note :Summer Training is one of the requirements that the student has to apply during July or August.

Department of Dams and Water Resources / Fourth Level

(Fall semester) / Fourth Level								
Notes	Code	Pre-request	Units	Practical hours	Theoretical hours	Subject	Type	
	-	-	2	---	2	English language – Upper Intermediate	Compulsory	University requirements
	ENGC 425	-	۲	---	۲	Engineering Management	Compulsory	College requirements
	DWR 440	Open Channel and Hydraulic Machines	۳	۲	۲	Design of Hydraulic Structures I	Compulsory	Department requirements
	DWR 441	Irrigation Principles and Practices	۳	۲	۲	Design and Gravity Irrigation Systems	Compulsory	
	DWR 442	Irrigation Principles and Practices and Drainage Engineering	۲	---	۲	Design of Irrigation and Drainage Networks	Compulsory	
	DWR 443	Surface Hydrology	۲	---	۲	Design of Gravity and Arch Dams	Compulsory	
	DWR 444	Soil Mechanics II	۲	---	۲	Foundation Engineering	Compulsory	
	DWR 445	All compulsory subjects in Third level	۲	---	۲	Graduation Project I	Compulsory	
The student has to choose one	DWR 490	-	۲	---	۲	Linear Algebra	Elective	
	DWR 491	-	۲	---	۲	Operation Research	Elective	
			۲۰	۴	۱۸	Total hours		

(Spring semester) / Fourth Level

Notes	Code	Pre-request	Units	Practical hours	Theoretical hours	Subject	Type	
	ENGC426		۲	---	۲	Engineering Economic	Compulsory	College requirements
	DWR 446	Design of Hydraulic Structures I	۳	۲	۲	Design of Hydraulic Structures II	Compulsory	Department requirements
	DWR 447	Design and Gravity Irrigation Systems	۳	۲	۲	Design of Sprinkler and Drip Irrigation System	Compulsory	
	DWR 448		۲	2	1	Estimations and Specifications	Compulsory	
	DWR 449	Design of Gravity and Arch Dams	۲	---	۲	Earth and Earth Rock Fill Dams	Compulsory	
	DWR 450	Foundation Engineering	۲	---	۲	Foundation Engineering of Hydraulic Structures	Compulsory	
	DWR 451		2	---	2	Sediment Transport	Compulsory	
	DWR 452	Graduation Project I	۲	---	۲	Graduation Project II	Compulsory	
The student has to choose one	DWR 492		۲	---	۲	Finite Elements	Elective	
	DWR 493		۲	---	۲	Water Supply Engineering	Elective	
			۲۰	۶	۱۷	Total hours		